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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FETZNER, TIFFANY A

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,625	Applicant(s) WOSIK ET AL.	
	Examiner Tiffany A. Fetzner	Art Unit 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-26 and 28-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-6, 8-26 and 28-44 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Election of species

1. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Species **A**) = MRI Coil with closed saddle shaped structure, and overlapping layers forming capacitors

Species **B**) = Hybrid rectangular shaped MRI coil, superconducting legs, built in capacitors and metal members.

Species **C**) = Birdcage shaped resonator, constructed from a plurality of **species A**) arranged to form at least one small animal MRI imaging cavity. [The examiner notes that there are plurality grammatical errors in the independent claim, and it appears that this species requires the presence of at least two small animal MRI imaging cavities, because a plurality of coils from **species A**) are utilized together.]

Species **D**) = Birdcage shaped resonator, constructed from a plurality of **species B**) arranged to form at least one small animal MRI imaging cavity. [The examiner notes that there are plurality grammatical errors in the independent claim, and it appears that this species requires the presence of at least two small animal MRI imaging cavities, because a plurality of coils from **species B**) are utilized together.]

Species **E**) = A small animal MRI apparatus, with a vacuum housing, at least one cylindrical aperture of coolant reservoir with coolant cooling inlet coolant outlet cold plate and resonator comprising a plurality of coil apparatuses forming a cylindrical structure that surround each animal cavity permitting MRI imaging within each of the small animal ~~cavities~~ apertures.

Species **F**) = A small animal MRI apparatus, with a vacuum housing, at least one cylindrical aperture of coolant reservoir with coolant cooling inlet coolant outlet cold plate and resonator comprising a plurality of coils, having a closed flat rectangular shape for overlapping regions and built in capacitors, with each coil in thermal contact with the cold plate and where each cavity has three coils in a triangular arrangement therearound.

2. Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

3. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

4. The claims are deemed to correspond to the species listed above in the following manner:

Species A) = **Claim 1** and **dependent claims 2-6, 8-10.**

Species B) = **Claim 11** and **dependent claims 12-20.**

Species C) = **Claim 21** and **dependent claims 22-26, 28-30.**

Species D) = **Claim 31** and **dependent claims 32-40.**

Species E) = **Claim 41** and Newly added **dependent claims 43, 44.**

Species F) = **Claim 42**

The following claim(s) are generic to the following species:

Claims 10, 20, 30, 40 are generic to **species A, B, C, and D** only

Claims 2, 22 are generic to **species A, and C** only

Claims 3, 23 are generic to **species A, and C** only

Claims 4, 24 are generic to **species A, and C** only

Claims 5, 25 are generic to **species A, and C** only

Claims 6, 26 are generic to **species A, and C** only

Claims 8, 28 are generic to **species A, and C** only

Claims 9, 29 are generic to **species A, and C** only

Claims 12, 32 are generic to **species B**, and **D** only

Claims 13, 33 are generic to **species B**, and **D** only

Claims 14, 34 are generic to **species B**, and **D** only

Claims 15, 35 are generic to **species B**, and **D** only

Claims 16, 36 are generic to **species B**, and **D** only

Claims 17, 37 are generic to **species B**, and **D** only

Claims 19, 39 are generic to **species B**, and **D** only

5. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons:

Species A)-->E) Lack the limitation of: each coil in thermal contact with the cold plate and where each cavity has three coils in a triangular arrangement therearound as set forth in **species F**).

Species A)-->D), and F) Lack the combinational limitations of: A small animal MRI apparatus, with a vacuum housing, at least one cylindrical aperture of coolant reservoir with coolant cooling inlet coolant outlet cold plate and resonator comprising a plurality of coil apparatuses, and forming a cylindrical structure that surround each animal cavity permitting MRI imaging within each of the small animal ~~cavities~~-apertures. [The examiner notes that the coil apparatuses of **species E)** are entirely unspecified, therefore the structure of **species E)** does not require the structural components of species **A)-->D), or Species F)**.

Species A)-->C) , and E), F) Lack the structural feature of a **birdcage resonator** defining an animal insertion cavity constructed from a plurality of hybrid coils having a closed rectangular shape, separating dielectric layers, built-in capacitors, elongated superconducting legs, metal members, with overlap occurring an opposite faces of the metal members, in combination as set forth in applicant's **Species D)**.

Species A)-->B) , and D), E), F) Lack the structural feature of a **birdcage resonator** defining an animal insertion cavity constructed from **a plurality of four member closed saddle shaped MRI coils**, each coil having four members, separating dielectric layers, and capacitors formed from overlapping, in combination as set forth in applicant's **Species C)**.

Species A), and C), D), E), F) Lack the structural feature of being a **non-birdcage, hybrid MRI coil of closed rectangular shape**, separating dielectric layers, metal members ,superconducting legs and built-in capacitors, taken in combination as set forth in applicant's **Species B)**.

Species B), C), D), E), and F) Lack the structural feature of being a **four member non-birdcage, MRI coil of closed saddle shape**, having separating dielectric layers, and capacitors formed by overlapping, taken in combination as set forth in applicant's **Species A)**.

6. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

7. The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Priority still unresolved

8. The examiner has noted applicant's remarks in the response of April 13, 2009; however, the priority data is still inconsistent.

9. While the examiner can verify the validity of the provisional US application 60/537,782, filed January 20, 2004, the applicant provided PCT application number for priority does not match The PCT application number submitted with the instant application. The PCT associated with US provisional application number 60/537,782 is still different than the serial number of the PCT provided by the applicant in the continuation data of the instant application.

10. Applicant is required to take whatever steps are necessary in order to perfect the claim for priority. Potential corrective actions may include any of the following: a new oath/declaration, a corrected filing receipt, an amended priority paragraph at the beginning of applicants' written description within the specification of the instant application, and/or Payment of all required fees.

11. The actual PCT application number associated with US provisional application number **60/537,782** is **PCT / US2005 / 001813** which is different than the PCT application number provided in applicant's original specification, oath declaration and Disclosure.

12. The examiner must reiterate, this priority concern, because there is no corrected filing receipt currently present within applicant's electronic application at the USPTO

Information Disclosure Statement

13. The information disclosure statement(s) (IDS)'s submitted on **June 20th 2006** is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement. The initialed and dated information disclosure statement (IDS) submitted on **June 20th 2006** was previously attached to the Office action of November 12 2008.

Drawings

14. The corrected drawings received April 13, 2009 are proved by the examiner. .

Claim Objections Scope of claims is still unclear

15. **Amended Claims 41 and 42** are still objected to because of the following informalities:

A) these two claims still have numerous inconsistencies with respect to singular versus plural tense. It is unclear whether applicants claim is referring to one animal cavity or more than one animal aperture?/cavity?. Based on the specification, and because plural coils are being used, it appears to the examiner that at least two small animal apertures/cavities must be present in the embodiment of amended Claims 41 and 42. **Additionally consistent antecedent basis is needed;** the same component cannot be referred to as an aperture in one part of the claim and a cavity in the second part of the claim.

B) In both **Amended claims 41 and 42**. The adaptation itself which applicant has made to the cylindrical cavity is undefined. When the words “**adapted to**” are in a claim the adaptation made must be set forth. A possible solution to this error is to use the word “configured” Instead.

Claim Rejections - 35 USC § 112

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. **Amended Claims 41 and 42** are rejected under **35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. [See the Detailed explanations above, where the numerous grammatical issues, and singular versus plural inconsistencies, create a problem with the claimed scope of these claims, and the examiner cannot determine what the actual structure is that is being recited. If the structure in amended independent claims, is supposed to be a single integrated structure which has at least two separate areas for receiving small animals within the single integrated structure. Clarification and correction is needed. If applicant has any concerns as to the remaining grammatical, single versus plural, or antecedent basis, issues with respect to **amended Claims 41 and 42**. Applicant’s representative may feel free to contact the examiner for a telephonic interview.

Prior Art of Record

The prior art made of record from the November 12, 2008 office action is still considered pertinent to applicant’s disclosure. However due to the numerous amendments, which resulted in each of the independent claims, corresponding to a separate species, and necessitating the election of species herein. The examiner will continue with the examination on them merits process, once applicant has responded with the species election

A) **Wong et al.**, US patent **6,377,047 B1** issued **April 23, 2002**, filed June 8, 2000.

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Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiffany Fetzner whose telephone number is: (571) 272-2241. The examiner can normally be reached on Monday, Wednesday, and Friday-Thursday from 7:00am to 2:10 pm., and on Tuesday and Thursday from 7:00am to 5:30pm.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Diego Gutierrez**, can be reached at (571) 272-2245. The **only official fax phone number** for the organization where this application or proceeding is assigned is **(571) 273-8300**.

20. Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PMR only. For more information about the PMR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PMR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/TAF/
July 22, 2009

/Brij Shrivastav/
Primary Patent Examiner
Technology Center 2800